

REMARKS

The Office Action dated March 7, 2008, has been received and reviewed. The preceding amendments and following remarks form a full and complete response thereto. Claims 1, 4-23, 25-26, 28-33, 35-40, and 43-57 have been amended. Claims 2, 3, 24, 27, 32, 34, and 41-42 has been cancelled without prejudice. No new matter has been added by any of the amendments. Accordingly, claims 1, 4-23, 25-26, 28-31, 33, 35-40, and 43, and 45-57 are pending in this application and are submitted for consideration.

Claims 1-4, 6-42, 49-57 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,202,491 to Suzuki ("Suzuki"). Applicants respectfully traverse the rejection on the basis that claims 1-4, 6-42, 49-57 recite subject matter not disclosed by Suzuki.

Claim 1 recites a machine-readable authenticity mark that is a component of a security element for a securing an object of value, a component of a value document, or a component of a security paper fro producing security or value documents. The authenticity mark comprises a luminescent marking substrate that emits light in the infrared spectral range. Additionally, the authenticity mark comprises an absorbing marking substance that absorbs light in the infrared spectral range. The luminescent marking substance is excitable in the infrared spectral range and emits light in the absorption range of the infrared absorbing marking substance.

Claim 28 recites A method for checking the authenticity of a machine-readable authenticity mark for use on a value document, security element, or security paper. The

authenticity mark comprises a machine readable authenticity mark comprising a luminescent marking substance that emits light in the infrared spectral range, and an absorbing marking substance that absorbs light in the infrared spectral range, wherein the luminescent marking substance is excitable in the infrared spectral range and emits in the absorption range of the infrared absorbing marking substance. The method includes the step of irradiating the machine-readable authenticity mark with infrared radiation from the excitation range of the luminescent marking substance. The emission of the authenticity mark at the wavelength from the emission range can then be determined and the authenticity of the value document, security element, or security paper can then be evaluated on the basis of the determined emission.

Independent claim 40 recites an apparatus for checking the authenticity of a machine-readable authenticity mark. The authenticity mark comprises a luminescent marking substance that emits light in the infrared spectral range, and an absorbing marking substance that absorbs light in the infrared spectral range, wherein the luminescent marking substance is excitable in the infrared spectral range. The apparatus comprises a means for irradiating the machine-readable authenticity mark with infrared radiation from the excitation range of the luminescent marking substance. The luminescent marking substance emits in the absorption range of the infrared absorbing marking substance. The apparatus further comprises means for determining the emission of the authenticity mark at a wavelength from the emission range, means for irradiating the machine-readable authenticity mark with infrared radiation from the absorption range of the infrared absorbing marking substance, means determining the

absorption of the authenticity mark at a wavelength from the irradiation range, and means for evaluating the authenticity of the value document, security element or security paper on the basis of the determined emission and absorption.

Suzuki relates to a data card wherein various data are recorded with a fluorescent material which emits infrared rays when excited by infrared rays. See Suzuki at col. 2, lines 35-41. Since the "infrared-infrared fluorescent material" (i.e. material that is both excited by and emits infrared light) is substantially white and infrared rays cannot be sensed with the eye, the data card in which data are recorded with such fluorescent material is very effective for the preservation of secrecy and the prevention of forgery. See Suzuki at col. 2, lines 42-46. In this technical context, Suzuki discloses to utilize fluorescent materials, such as neodymium, ytterbium or erbium, which have sharp absorption and emission spectra at specific wavelengths for forgery protection of data sheets or the like. See Suzuki at col. 2, line 64 to col. 3, line 15; Figs. 4a, 4b. Especially, Suzuki suggests to use at least two sorts of infrared-infrared fluorescent materials which differ in the excitation and/or emission spectra. See, e.g., Suzuki at claim 2.

Suzuki, however, fails to disclose an authenticity mark comprising a luminescent marking substance that emits light in the infrared spectral range and an absorbing marking substance that absorbs light in the infrared spectral range, where the luminescent marking substance emits light in the same range that the absorbing marking substance absorbs light. Even though Suzuki may discuss the absorption properties of florescent materials, the joint usage of two substances – one illuminating

and one absorbing – is not disclosed or suggested. Accordingly, Suzuki fails to disclose each and every element of claim 1. Applicants, therefore, respectfully request withdrawal of the rejection of claim 1 and its dependent claims 4, 6-23, 25-27, and 49-57.

Similarly to claim 1, claim 28 recites a method of authenticating an authenticity mark comprising a luminescent marking substance and an absorbing marking substance. As discussed above with respect to claim 1, Suzuki fails to disclose this feature entirely. Applicants, therefore, respectfully request the withdrawal of the rejection of claim 28 and its dependent claims 29-33, and 35-39.

Claim 40 recites an apparatus for checking the authenticity of a machine-readable authenticity mark. Similarly to claims 1 and 28, the authenticity mark comprises a luminescent marking substance that emits light in the infrared spectral range and an absorbing marking substance that absorbs light in the infrared spectral range. Additionally, the luminescent marking substance emits in the absorption range of the infrared absorbing marking substance. As discussed above with respect to claims 1 and 28, Suzuki fails to disclose these features. Applicants, therefore, respectfully request the withdrawal of the rejection of claim 40.

Claims 5 and 45-48 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki in view of U.S. Patent No. 4,983,817 to Dolash et al. ("Dolash"). Applicants respectfully traverse the rejections on the basis that claims 5, and 45-48 recite subject matter neither disclosed nor suggested by the combination of Suzuki and Dolash.

Claims 5 and 45-48 depend from claim 1 and are, therefore, patentable over Suzuki for at least the same reasons stated above with respect to claim 1. Dolash, which is erroneously cited as reaching an infrared absorbing material in the range of far red to NIR (See Office Action at 7), teaches reading a luminescent and substantially transparent bar code on a background surface whose reflectance may vary over the coded area to, e.g., facilitate automatic sorting of mail. See Dolash at col. 1, lines 20-38. The luminescent and substantially transparent bar code may be comprised of dyes in that fluoresce the infrared (e.g. 800nm to 1500nm) and have negligible reflection of light below about 700nm so as to be invisible. Claims 5 and 48 recite marking substances that absorb light in the infrared spectrum. Claims 45 and 47 recite wavelengths of florescence (880nm and 1200nm, respectively) not disclosed by Dolash. Additionally, Dolash fails to remedy the deficiencies of Suzuki because it, like Suzuki, fails to disclose or suggest an authenticity mark comprising an illuminating marking substance and an absorbing marking substance. Accordingly, Applicants respectfully request the withdrawal of the rejection of claims 5 and 45-48.

Claim 43 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki in view of GB 2273353 to Henley et al. ("Henley"). Applicants traverse the rejection on the basis that claim 43 recites subject matter neither disclosed nor suggested by the combination of Suzuki and Henley. For instance, claim 43 is patentable over Suzuki for at least the same reasons stated above with respect to claim 40, from which it depends. The Office cites Henley to correct Suzuki's failure to disclose a money processing machine for dealings in bank note testing device. See Office Action at 7. Henley

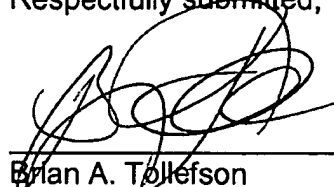
discloses a device for detecting security strips in thin transparent or translucent sheets. See Henley abstract. Henley's disclosure, however, fails to remedy the deficiencies of Suzuki because Henley also fails to disclose or suggest an authenticity marking comprising an illuminating marking substance and an absorbing marking substance. Applicants, therefore, respectfully request withdrawal of the rejection of claim 43.

In view of the above amendments and remarks, Applicants believe all of the Examiner's rejections set forth in the March 7, 2008 Office Action have been fully overcome and the application is in condition for allowance. If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event that this paper is not timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account No. 02-2135.

Respectfully submitted,

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